CONTENTS

No. 1 JANUARY, 1942

HERTA BREITER, ROSALIND MILLS, ESTHER RUTHERFORD, WILLIAMINA ARMSTRONG AND JULIA OUTHOUSE. The utilization of the calcium of carrots by adults 1

J. O. LAMPEN, G. P. BAHLER AND W. H. PETERSON. The occurrence of free and bound biotin. One figure 11

HERBERT P. SARETT, JESSE W. HUFF AND WILLIAM A. PERLZWEIG, WITH THE TECHNICAL ASSISTANCE OF MOLLY STENHOUSE AND RACHEL FORTH. Studies in nicotinic acid metabolism. I. The fate of nicotinic acid in man 23

HERBERT P. SARETT, WITH THE TECHNICAL ASSISTANCE OF MOLLY STENHOUSE. Studies in nicotinic acid metabolism. II. The fate of nicotinic acid in normal and black tongue dogs 35

L. M. HENDERSON, J. M. MCINTIRE, HARRY A. WAISMAN AND C. A. ELVEHJEM. Pantothenic acid in the nutrition of the rat 47

KARL E. MASON. Criteria of response in the bio-assay of vitamin E 59

KARL E. MASON. Distribution of vitamin E in the tissues of the rat 71

ROBERT C. LEE. Heat production of the rabbit at 28°C. as affected by previous adaptation to temperatures between 10° and 31°C. 83

DWIGHT J. MULFORD AND WENDELL H. GRIFFITH. Choline metabolism. VIII. The relation of cystine and of methionine to the requirement of choline in young rats. Four figures 91

No. 2 FEBRUARY, 1942

T. S. HAMILTON. The effect of added glucose upon the digestibility of protein and of fiber in rations for sheep 101

CLARA A. STORVICK AND HAZEL M. HAUCK. Effect of controlled ascorbic acid ingestion upon urinary excretion and plasma concentration of ascorbic acid in normal adults. One figure 111

J. I. ROUTH. Nutritional studies on powdered wool. Three figures 125

G. F. COMBS, L. C. NORRIS AND G. F. HEUSER. The interrelationship of manganese, phosphatase and vitamin D in bone development 131

JOHN G. SINCLAIR. Fetal rat parathyroids as affected by changes in maternal serum calcium and phosphorus through parathyroidectomy and dietary control 141

M. B. Gillis, G. F. Heuser and L. C. Norris. The need for pantothenic acid and an unidentified factor in reproduction in the domestic fowl 153

R. G. Green, W. E. Carlson and C. A. Evans. The inactivation of vitamin B_1 in diets containing whole fish. Two figures 165

D. Mark Hegsted, R. C. Mills, G. M. Briggs, C. A. Elvehjem and E. B. Hart. Biotin in chick nutrition 175

Frances A. Johnston and Lydia J. Roberts. The iron requirement of children of the early school age 181

Otto A. Bessey and Ruth L. White. The ascorbic acid requirements of children. One figure 195

No. 3 MARCH, 1942

Esther Peterson Daniel, O. L. Kline and Chester D. Tolle. A convulsive syndrome in young rats associated with pyridoxine deficiency.. 205

John T. Correll and E. C. Wise. Antirachitic properties of A.T. 10 for the rat and chicken 217

Ruth M. Leverton and Alice G. Marsh. The iron metabolism and requirement of young women 229

Harry A. Waisman, LaVell M. Henderson, J. M. McIntire and C. A. Elvehjem. The effect of enzymatic digestion on the pantothenic acid content of meats determined by the microbiological method 239

Harvey K. Murer and Lathan A. Crandall, Jr. Effect of pectin on the retention of dietary lead (radium D) 249

Ancel Keys and Austin F. Henschel. Vitamin supplementation of U. S. Army rations in relation to fatigue and the ability to do muscular work 259

Harry Shwachman and Bernard S. Gould. Serum phosphatase in experimental scurvy. Two figures 271

H. C. Sherman and M. S. Ragan. Quantitative distribution of phosphorus and calcium in certain fruits and vegetables 283

Caroline Sherman Lanford. Effect on growth and calcium assimilation of citric acid — potassium citrate mixtures 293

E. LeB. Gray and John D. Cawley. The state of vitamin A in the liver of the rat. II. The effect of feeding the vitamin over extended periods. Three figures 301

E. Niege Todhunter, Ruth C. Robbins and Jennie A. McIntosh. The rate of increase of blood plasma ascorbic acid after ingestion of ascorbic acid (vitamin C). One figure 309

No. 4 APRIL, 1942

Josef Warkany and Rose C. Nelson. Congenital malformations induced in rats by maternal nutritional deficiency. One plate (four figures) 321

Kathleen Dietrich Muelder and Eunice Kelly. The effect of the level of fat in the diet upon utilization of vitamin A 335

THORNE M. CARPENTER AND HARRY C. TRIMBLE. The respiratory quotient of protein of the Dalmatian dog 345

J. M. LEWIS, O. BODANSKY, K. G. FALK AND G. MCGUIRE. Vitamin A requirements in the rat. The relation of vitamin A intake to growth and to concentration of vitamin A in the blood plasma, liver and retina. Two figures 351

LEROY VORIS AND E. J. THACKER. The effects of the substitution of bicarbonate for chloride in the diet of rats on growth, energy and protein metabolism 365

CYRUS E. FRENCH. The interrelation of calcium and fat utilization in the growing albino rat 375

L. A. MAYNARD AND EDITH RASMUSSEN. The influence of dietary fat on lactation performance in rats 385

TATIANA LEVCOWICH AND E. L. BATCHELDER. Ascorbic acid excretion at known levels of intake as related to capillary resistance, dietary estimates, and human requirements 399

CAROLINE SHERMAN LANFORD. Studies of liberal citrus intakes. I 409

L. J. TEPLY, F. M. STRONG AND C. A. ELVEHJEM. The distribution of nicotinic acid in foods 417

No. 5 MAY, 1942

HAROLD D. WEST AND NELSON C. JEFFERSON. The effect of aromatic hydrocarbons on the growth of young rats. One chart 425

HANS POPPER AND SADIE BRENNER. The fate of excess vitamin A stores during depletion. Value of the histologic demonstration of vitamin A. One plate (eight figures) 431

CHARLOTTE CHORNOCK, N. B. GUERRANT AND R. ADAMS DUTCHER. Effect of manganese on calcification in the growing rat. Two figures 445

SADIE BRENNER, MARGARET C. HESSLER BROOKES AND LYDIA J. ROBERTS. The relation of liver stores to the occurrence of early signs of vitamin A deficiency in the white rat. One figure 459

SAMUEL H. EPPSTEIN AND SERGIUS MORGULIS. Factors influencing the onset and cure of nutritional muscular dystrophy 473

MARGARET L. FINCKE AND VIRGINIA L. LANDQUIST, WITH THE TECHNICAL ASSISTANCE OF PHYLLIS M. CARPENTER. The daily intake of ascorbic acid required to maintain adequate and optimal levels of this vitamin in blood plasma 483

A. E. SCHAEFER, J. M. MCKIBBIN AND C. A. ELVEHJEM. Studies of the vitamin B complex in the nutrition of the dog. Two figures 491

D. E. WILLIAMS, F. L. MACLEOD AND E. MORRELL. Availability to rats of phosphorus in red clover hays of widely varying phosphorus content 501

MARIANNE GOETTSCH. Alpha-tocopherol requirement of the mouse 513

PAUL D. BOYER, PAUL H. PHILLIPS, W. D. POUNDEN, C. W. JENSEN, I. W. RUPEL AND M. E. NESBIT. Certain relationships of avitaminosis A to vitamin C in the young bovine 525

No. 6 JUNE, 1942

ALBERT G. HOGAN AND JOHN W. HAMILTON. Adequacy of simplified diets for guinea pigs and rabbits. Two figures 533

KLAUS UNNA AND GRACE V. RICHARDS. Relationship between pantothenic acid requirement and age in the rat. Two figures 545

LEROY VORIS, ALEX BLACK, R. W. SWIFT AND C. E. FRENCH. Thiamine, riboflavin, pyridoxine and pantothenate deficiencies as affecting the appetite and growth of the albino rat. One figure 555

HARRY J. DEUEL, JR., LOIS F. HALLMAN, CORNELIA JOHNSTON AND FRED MATTSON. The effect of a high vitamin A intake on the blood and milk carotene of Holstein and Guernsey cows. One figure 567

M. H. HAYDAK, L. S. PALMER, M. C. TANQUARY AND A. E. VIVINO. Vitamin content of honeys 581

RALPH S. OVERMAN, JOHN B. FIELD, CARL A. BAUMANN AND KARL PAUL LINK. Studies on the hemorrhagic sweet clover disease. IX. The effect of diet and vitamin K on the hypoprothrombinemia induced by 3,3′-methylenebis (4-hydroxycoumarin) in the rat. One figure 589

WENDELL H. GRIFFITH, PAUL L. PAVCEK AND DWIGHT J. MULFORD. The relation of the sulphur amino acids to the toxicity of cobalt and nickel in the rat 603

ROBERT L. LANE, ELISABETH JOHNSON AND ROBERT R. WILLIAMS. Studies of the average American diet. I. Thiamine content 613

H. A. MATTILL AND CALVIN GOLUMBIC. Vitamin E, cod liver oil and muscular dystrophy. One figure 625

C. A. CABELL AND N. R. ELLIS. The vitamin E content of certain varieties of wheat, corn, grasses and legumes as determined by rat assay. One figure 633

AMERICAN INSTITUTE OF NUTRITION. Proceedings of the ninth annual meeting, Boston, April 1 and 2, 1942 645